

ABSTRACT

A television receiver includes circuitry that quickly derives a channel map for a DTV receiver. The apparatus includes tuner that is controlled by a processor in the television receiver to periodically test each channel frequency to determine the strength of the signal at that frequency. If the signal strength exceeds a threshold value, the channel map is updated to indicate that a channel exists at that frequency. The processor monitors the signal recovered by the tuner during normal television viewing for valid program information. If the processor does not detect valid program information for a channel in the program map, the threshold value used by the processor to build the channel map is raised. If the processor detects valid program information then information on the estimated noise level in the received DTV signal is used to update the threshold value. In one embodiment of the invention, the television receiver includes both a main tuner and an auxiliary tuner. The auxiliary tuner is controlled to periodically scan the television channel frequencies to update the channel map, even when the main tuner is being used by a viewer who is watching television.